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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,456	08/03/2001	Michael P. Naipawer III	FDN-2605	1371

7590 04/04/2003

GAF MATERIALS CORPORATION
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EXAMINER	
BOYD, JENNIFER A	

ART UNIT	PAPER NUMBER
1771	3

DATE MAILED: 04/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/922,456	NAIPAWER ET AL
	Examiner	Art Unit
	Jennifer A Boyd	1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☒ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *2*
4)☐ Interview Summary (PTO-413) Paper No(s). _____
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other

DETAILED ACTION

Claim Objections

1. Claims 9 and 13 are objected to because of the following informalities: the terms "fiberglass" and "naphthenic" are misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Cooper et al. (GB 2,165,564 A).

Cooper is directed to a method of forming a roof waterproofing system to be applied to a roof deck (page 1, lines 1 – 10 and 50 – 65).

As to claim 1, Cooper teaches a composite comprising a self-adhesive sheet comprising two layers of pressure-sensitive and waterproofing bituminous compound separated by a core layer (page 1, lines 74 – 77). The core layer, equated to Applicant's "polyolefin film", may be a polymeric film, for example, a polyolefin such as polyethylene, polypropylene or copolymer thereof (page 2, lines 53 – 61). The self-adhesive sheet has an integral apertured sheet adhered to one face of the bituminous compound (page 1, lines 91 – 95). The apertured sheet, equated to Applicant's "reinforcing mat", is preferably a woven or non-woven sheet of natural or synthetic fiber, preferably a polymer or glass fiber non-woven fabric (page 1, lines 100 – 106). The

apertured sheet is substantially impervious to the bituminous compound except where there is an aperture, and the sheet is capable of bonding to a substrate in the area of the aperture (page 1, lines 95 – 100). The face of the self-adhesive sheet having the apertured sheet desirably carries a release sheet which may be stripped therefrom to permit the self-adhesive sheet to be applied to the roof deck of the insulation (page 1, lines 125 – 130). Therefore, the release sheet is bonded to the apertured sheet by means of the bituminous compound exposed through the apertures of the apertured sheet. The release sheet, equated to Applicant's "polyolefin release film", may be a silicone-treated paper or plastic film, preferably a thin low-melting polymer film such as a polyethylene or polypropylene film (page 2, lines 1 – 10). A final waterproofing sheet is applied as the top layer of the roof, equated to Applicant's "surface layer". The composite can be provided in roll form (page 3, example 3).

As to claim 3, Cooper teaches that the final waterproofing sheet, equated to Applicant's "surface layer", may be any environmentally stable and protective waterproofing sheet such as aluminum foil (page 2, lines 120 – 130).

As to claim 11, Cooper teaches that the "polyolefin release film" has a thickness of 0.5 to 15 microns (0.02 mils - 0.60 mils).

As to claim 12, no patentable weight is given to the process limitation "the polyolefin release film is treated with a silicone to facilitate release from the surface layer when the self-adhering multi-layer composite membrane is wound into a spiral roll or when said self-adhering multi-layer composite membrane is installed on a substrate", because it has no impact on the final product. Cooper does teach that the "polyolefin release film" may be a silicone-treated paper or plastic film, therefore Cooper does meet the final product limitation.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper et al. (GB 2,165,564 A).

As to claims 2 and 9, Cooper teaches the claimed invention except fails to teach that the surface layer has a thickness of 0.5 mils to 3.0 mils and the reinforcing mat has a basis weight of from about 20 g/m^2 to 120 g/m^2. It should be noted that the surface layer thickness is a result effective variable: for example, as the thickness decreases, the layer becomes more pliable. It should be noted that basis weight is a result effective variable: for example, as the weight decreased, the mat would become more flexible and easier to handle. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a surface layer with a thickness of 0.5 mils to 3.0 mils and a reinforcing mat with a basis weight of from about 20 g/m^2 to 120 g/m^2 since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the surface layer thickness and the basis weight of the reinforcing mat in order to have a composite which has added strength provided by the reinforcing mat while adding little additional weight and maintaining the flexibility of the composite by incorporating a thin surface layer.

As to claim 10, Cooper teaches that the apertured sheet, or "reinforcing mat", can be a polyester film (polyethylene terephthalate) (page 1, lines 99 – 106).

5. Claims 4 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper et al. (GB 2,165,564 A) in view of Stierli (US 4,442,148).

Cooper teaches that the final waterproofing sheet, or "surface layer", may be any environmentally stable and protective waterproofing sheet (page 2, lines 120 – 125).

Cooper fails to teach that the "surface layer" is a high density polyethylene.

Stierli is directed to waterproofing laminate for use as a structural surfacing for concrete decks, foundations and roofs (column 1, lines 10 – 15). The laminate comprises a pre-formed laminate structure of waterproofing flexible bituminous membrane having a flexible polymeric support sheet on at least one major face (column 2, lines 30 – 40). The support sheet 3 is non-removably adhered to the composition (column 2, lines 50 – 56). The support sheet can be made out of a polyolefin film such as polyethylene (column 3, lines 63 – 67), or specifically, in the example, a high density polyethylene film was used (column 4, lines 40 – 50).

Since Cooper does not disclose examples of alternate waterproofing sheets which are environmentally stable and waterproof, it would have been obvious and necessary to one of ordinary skill in the art at the time the invention was made to use a high density polyethylene film as suggested by Stierli in the composite of Cooper, motivated by the expectation of successfully practicing the invention of Cooper and having a strong and thermally stable sheet which will provide waterproof protection.

6. Claims 7 - 8 and 13 - 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper et al. (GB 2,165,564 A) in view of Walther et al. (US 6,319,969).

As to claims 7, 8, 13 and 15, Cooper teaches a pressure-sensitive and waterproofing bituminous compound which consists of bitumen compounded with a polymer and optionally other components including tackifiers, extenders, fillers, pigments and oils to give a material which is waterproof and will adhere strongly to materials such as primed concrete when moderate pressure is applied. Preferably, the polymer is a natural or synthetic rubber (page 1, lines 70 - 90).

Cooper fails to teach a pressure-sensitive and bituminous compound adhesive comprising of from about 60% w/w to about 80% w/w of asphalt, of from about 5% w/w to about 15% w/w of styrene-butadiene-styrene polymer or styrene-iso-styrene polymer, of from about 5% w/w to about 30% w/w of a limestone filler in a finely divided form, of from about 0.1% w/w to about 10% w/w naphthenic oil, and of from about 0.1% w/w to about 10% w/w of polybutene polymer.

Walther teaches an interpolymer composition useful as an adhesive (column 21, lines 61 – 64) and which is commonly used as an asphalt modifier (column 1, lines 35 – 40). The composition comprises an interpolymer or interpolymer/polymer blend, a processing agent and filler as well as other additives (column 2, lines 41 – 44). The polymer used can be a styrene-butadiene random co-polymer (SBR or SBS) (column 6, lines 65 – 67). The composition can additionally contain a limestone filler (claim 45 and column 12, lines 45 – 60), naphthenic oil (column 18, lines 38 – 52) and a polybutene tackifier (column 17, lines 18 - 20).

Since Cooper lacks specific disclosure to the components of the pressure-sensitive and bituminous compound adhesive, it would have been obvious and necessary to one of ordinary

skill in the art at the time the invention was made to use the composition as suggested by Walther as the adhesive in the composite of Cooper, motivated by the expectation of successfully practicing the invention of Cooper and the desire of having a thermally stable and weather-resistant adhesive.

As to claims 13 and 15, Cooper in view of Walther discloses the claimed invention except for that the adhesive comprises 60% - 80% w/w of asphalt, 5% - 15% w/w styrene-butadiene-styrene, 5% w/w – 30% w/w of limestone filler, 0.1% - 10% w/w of naphthenic oil and 0.1 – 10% w/w of a polybutene polymer. It should be noted that the amount of asphalt, styrene-butadiene-styrene, limestone filler, naphthenic oil and polybutene polymer are result effective variables. For example, the amount of asphalt impacts the adhesive properties, styrene-butadiene-styrene impacts the elasticity and the amount of limestone, napthenic oil and polybutene impacts the mechanical properties of the adhesive. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create an adhesive with 60% - 80% w/w of asphalt, 5% - 15% w/w styrene-butadiene-styrene, 5% w/w – 30% w/w of limestone filler, 0.1% - 10% w/w of naphthenic oil and 0.1 – 10% w/w of a polybutene polymer since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the amounts of asphalt, styrene-butadiene-styrene, limestone filler, naphthenic oil and polybutene polymer in order to create a high-strength, water-proof, strongly adhesive compound.

As to claim 14, Cooper teaches that the adhesive compound may be 0.5 to 5 mm thick

(page 1, lines 88 – 90).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 703-305-7082. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jennifer Boyd
March 31, 2003